WHAT IS CLAIMED IS:

1. A magnetoresistive read sensor comprising:

a first shield layer;

a first gap layer over the first shield layer;

a spin-valve stack over the first gap layer, the spin-valve stack comprising:

a seed layer over the first gap layer, at least a portion of the seed layer comprising a soft-magnetic material;

an antiferromagnetic layer over the seed layer, the antiferromagnetic layer magnetically decoupled from the seed layer; and

a free layer over a first portion of the antiferromagnetic layer;

and

a bias structure adjacent to the free layer, the bias structure located over a second portion of the antiferromagnetic layer and isolated from the seed layer by the second portion.

2. The read sensor of Claim 1, wherein the first shield layer comprises a soft-magnetic material.

3. The read sensor of Claim 1, wherein the first shield layer has a thickness in a range between approximately 0.5 micron and approximately 3 microns.

4. The read sensor of Claim 1, wherein the first gap layer comprises an electrically insulative material.

5. The read sensor of Claim 1, wherein the first gap layer has a thickness in a range between approximately 25 Angstroms and approximately 250 Angstroms.

6. The read sensor of Claim 1, wherein the first gap layer has a thickness of approximately 125 Angstroms.

7. The read sensor of Claim 1, wherein the seed layer has a resistivity in a range between approximately 20 x 10^{-6} ohm-cm and approximately 200 x 10^{-6} ohm-cm.

8. The read sensor of Claim 1, wherein the seed layer is non-conductive.

9. The read sensor of Claim 1, wherein the seed layer comprises nickel-iron alloy doped with chromium or rhodium, the seed layer having a dopant concentration.

10. The read sensor of Claim 9, wherein the dopant concentration is sufficiently small so that the seed layer is ferromagnetic.

11. The read sensor of Claim 1, wherein the seed layer has a thickness in a range between approximately 10 Angstroms and approximately 100 Angstroms.

12. The read sensor of Claim 1, wherein the seed layer has a thickness in a range between approximately 25 Angstroms and approximately 75 Angstroms.

13. The read sensor of Claim 1, wherein the seed layer has a thickness of approximately 50 Angstroms.

14. The read sensor of Claim 1, wherein the antiferromagnetic layer comprises platinum-maganese alloy.

15. The read sensor of Claim 1, wherein the antiferromagnetic layer has a thickness of approximately 150 Angstroms.

16. The read sensor of Claim 1, wherein the free layer comprises a magnetic material.

17. The read sensor of Claim 1, wherein the free layer has a thickness in a range between approximately 5 Angstroms and approximately 40 Angstroms.

18. The read sensor of Claim 1, wherein the free layer has a thickness of approximately 25 Angstroms.

19. The read sensor of Claim 1, wherein the bias structure comprises a bias layer comprising a hard-magnetic material.

20. The read sensor of Claim 1, wherein the bias structure has a lower surface bounded by the antiferromagnetic layer.

21. The read sensor of Claim 1, further comprising an adhesion layer between the first gap layer and the seed layer.

22. The read sensor of Claim 21, wherein the adhesion layer comprises tantalum.

23. The read sensor of Claim 21, wherein the adhesion layer has a thickness in a range between approximately 10 Angstroms and approximately 30 Angstroms.

24. The read sensor of Claim 21, wherein the adhesion layer has a thickness of approximately 15 Angstroms.

25. The read sensor of Claim 1, further comprising an exchange break layer between the antiferromagnetic layer and the seed layer, the exchange break layer adapted to magnetically decouple the antiferromagnetic layer from the seed layer.

26. The read sensor of Claim 25, wherein the exchange break layer comprises a nonmagnetic material.

27. The read sensor of Claim 25, wherein the exchange break layer has a thickness of approximately 10 Angstroms.

28. The read sensor of Claim 1, further comprising a pinned layer between the antiferromagnetic layer and the free layer.

29. The read sensor of Claim 28, wherein the pinned layer comprises a first nickel-iron layer on the antiferromagnetic layer, a ruthenium layer on the first nickel-iron layer, and a second nickel-iron layer on the ruthenium layer.

30. The read sensor of Claim 28, further comprising a copper spacer layer between the pinned layer and the free layer.

31. The read sensor of Claim 1, further comprising a second gap layer over the spin-valve stack, and a second shield layer over the second gap layer.

32. The read sensor of Claim 31, wherein the second gap layer comprises an electrically insulative material.

33. The read sensor of Claim 31, wherein the second gap layer has a thickness in a range between approximately 25 Angstroms and approximately 250 Angstroms.

34. The read sensor of Claim 31, wherein the second gap layer has a thickness of approximately 125 Angstroms.

35. The read sensor of Claim 31, wherein the second shield layer comprises a soft-magnetic material.

36. The read sensor of Claim 31, wherein the second shield layer has a thickness in a range between approximately 0.5 micron and approximately 3 microns.

37. The read sensor of Claim 1, wherein the free layer has a first surface area and the seed layer has a second surface area, the second surface area substantially larger than the first surface area.

38. The read sensor of Claim 37, wherein the second surface area is at least ten times larger than the first surface area.

39. The read sensor of Claim 37, wherein the first surface area is in a range between approximately 0.01 square micron and approximately 0.03 square micron, and the second surface area is in a range between approximately 9 square microns and approximately 64 square microns.

40. A method of forming a magnetoresistive read sensor, the method comprising:

providing a substrate;

forming a first shield layer over the substrate;

forming a first gap layer over the first shield layer;

forming a spin-valve stack over the first gap layer by:

forming a seed layer over the first gap layer, at least a portion of the seed layer comprising a soft-magnetic material;

forming an antiferromagnetic layer over the seed layer, the antiferromagnetic layer magnetically decoupled from the seed layer;

forming a pinned layer over the antiferromagnetic layer; and

forming a free layer over the pinned layer and over a first portion of the antiferromagnetic layer;

and

forming a bias structure over a second portion of the antiferromagnetic layer, the bias structure adjacent to the free layer and isolated from the seed layer by the second portion.

41. The method of Claim 40, wherein forming the bias structure comprises ion-milling away a portion of the spin-valve stack without ion-milling the seed layer.

42. The method of Claim 41, wherein the ion-milling is terminated on the antiferromagnetic layer.

43. The method of Claim 40, further comprising forming a second gap layer over the spin-valve stack and the bias structure and forming a second shield layer over the second gap layer.

44. The method of Claim 40, further comprising ion-milling the read sensor to define the stripe, the ion-milling terminated on the first gap layer.

45. A magnetoresistive read head comprising:

a first shield layer having a magnetostatic potential;

a first gap layer over the first shield layer;

a spin-valve stack over the first gap layer, the spin-valve stack comprising:

a seed layer over the first gap layer;

an antiferromagnetic layer over the seed layer;

a pinned layer over the antiferromagnetic layer; and

a free layer over the pinned layer and over a first portion of the antiferromagnetic layer;

and

a bias structure over a second portion of the antiferromagnetic layer and adjacent to the free layer,

wherein the seed layer has a magnetostatic potential substantially equal to the magnetostatic potential of the first shield layer.